

## Views from the River Bank, April 2021



### Rainfall, Groundwater Levels & River Flows

In June last year, the Environment Agency declared a ‘developing drought’ in the Cam & Ely Ouse river catchment. This followed a period of below average rainfall with the March to May 2020 rainfall at 40% of the long-term average and the fourth driest period since records began in 1892. May 2020 was the driest month ever recorded in the catchment.

Since then rainfall has generally been above average. The long-term average rainfall (1981-2010) at the National Institute of Agricultural Botany’s (NIAB) weather station is 568.1mm and the total rainfall for 2020 was 666.7mm, 117% of the long-term average. Rainfall in individual autumn & winter months were also considerably above the long-term averages, including October 2020 (197%), December 2020 (208%) and January 2021 (174%). Taking the three months of December 2020 and January & February 2021 together, the total rainfall was 222.1mm, 174% of the long-term average of 127.5mm. Across East Anglia, these three months were the second wettest on record.

The effects of this above average rainfall winter were two-fold. First, groundwater levels in the Chalk aquifer south of Cambridge recovered from early 2020; at monitoring sites at Linton and Gogmagog/Stapleford groundwater levels in February 2021 were described as being ‘Notably high’. Secondly, river flows have also recovered; in February 2021, the flow in the River Cam at Dernford, between Sawston & Great Shelford, was described as ‘above normal’ at 143% of the long-term average, and the flow in the River Rhee at Burnt Mill, Haslingfield, was described as ‘exceptionally high’ at 304% of the long-term average.

Rainfall at NIAB in March 2021 was 39.0mm, just above the long-term average of 38.3mm. Across the Cam catchment as a whole rainfall was 37mm, 90% of the long-term average. Over the full year, April 2020 to March 2021, rainfall across East Anglia was 706mm, 118% of the long-term average of 600mm.

In March groundwater levels fell but remained ‘above normal’ at Linton and Gogmagog/Stapleford, and river flows at Dernford and Burnt Mill were described as ‘normal’ at 105% and 116% respectively of the long-term averages.

However, we must not allow these latest data to divert attention away from the fact that, according to the Cam Valley Forum, “*Groundwater abstraction, especially for public water supplies, deprives the Cam of about half its average natural flow.*” Further, they state “*future*

*demands for water as a result of growth and climate change...will further reduce the natural supply to Chalk streams and make them even more vulnerable to drying out in the summer."*

Further information on the pressures on the River Cam catchment can be found on Cam Valley Forum's website, particularly their report "Let it Flow!": <https://camvalleyforum.uk/>

Several members of the u3aC Environment Group are also members of Cam Valley Forum; we would encourage u3aC members to join CVF.

## River Water Quality

The EU Water Framework Directive came into force in the UK in 2003; it committed member states to achieve good quantitative & qualitative status of all water bodies by 2015. An assessment by the European Commission in 2012 found that only 53% of surface water bodies across the EU were likely to achieve good ecological status by 2015; figures for individual member states were not published. The Environment Agency has published data on the status of water bodies across England in 2015, 2016 and 2019 including those in the Cam & Ely Ouse river catchment, which can be summarised as follows:

| Year | % of surface water bodies with good ecological status or potential | % of surface water bodies with good chemical status |
|------|--|---|
| 2015 | 13.7%  | 97.3%   |
| 2016 | 13.7%  | 98.6%   |
| 2019 | 9.6%   | 0%  |

When the data for 2019 was published the Environment Agency added this note: "*Please note that the monitoring & assessment of chemical status in surface water bodies has changed to include new priority substances and stricter standards. We now also measure the presence of more persistent chemical substances in our waterways and more accurately reflect the extent of these chemicals in the environment. The introduction of these has meant that no surface water bodies have met the criteria for achieving good chemical status.*"

The 2019 data for the Cam & Ely Ouse river catchment also includes reasons for not achieving good status by sector. Over 60% are linked to just two sectors, agriculture & rural land management (38%), and the water industry (26%). In the agriculture & rural land management sector the reasons include soil runoff during periods of heavy rain, and fertilizer, pesticide and organic manure pollution by direct runoff or via groundwater. In the water industry sector the reasons include pollution from sewage works, either treated (but with high levels of phosphates) or untreated during periods of prolonged heavy rain, and groundwater abstraction causing a reduction in the natural river flows and decreased dilution of pollutants from all sources.

## **What can we all do?**

The single most effective way of ensuring that more water is available in the River Cam and its tributaries is to reduce the amount of water we use.

In our homes we can:

- Switch to a water meter
- Only use a full load in the dishwasher & washing machine
- If washing up, use a bowl rather than a running tap
- Wash & prepare vegetables in a bowl rather than under a running tap
- Never leave a tap running
- Fix dripping taps
- Have a shower rather than a bath; a 4-minute gravity shower will use less than half the water than a bath
- Use a dual-flush toilet or use a 'Hippo' or other flush-saving device

Outside we can:

- Only water the garden in the evening or early morning
- Avoid using hosepipes or sprinklers
- Grow drought-resistant plants ('dry' gardening)
- Use mulches to retain moisture in the soil
- Collect rainfall in water butts
- Consider using 'grey water', such as bathwater or washing up water, for garden watering
- Use a bucket when washing the car, rather than a hosepipe or pressure washer

More detailed advice from Cambridge Water on saving water can be found here:

<https://www.cambridge-water.co.uk/household/saving-water/how-can-i-save-water#athome>